Early childhood self-regulation support through music

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A critical dimension of early learning competence in the years prior to school is self-regulation. Self-regulation enables individuals to manage their emotions and direct their attention, thinking, and actions to meet adaptive goals. These skills enhance young children's readiness to learn. Self-regulation develops rapidly in the early years and is a critical predictor of educational and life success. Early self-regulation skills are important in the successful transition to formal school environments, and are more highly predictive of early primary academic achievement than measures of general intelligence. Poorer self-regulation skills are associated with problems relating to peers (Blandon, Calkins, & Keane, 2010), poorer social skills (Sanson et al., 2009), and higher levels of behaviour problems (Williams, 2014). Further into adolescence and adulthood, self-regulation has been found to play a key role in motivation, aspiration, job and relationship satisfaction, and mental health (McClelland, Ponitz, Messersmith, & Tominey, 2010). Self-regulatory skills develop and change with experience through the development of particular areas of the brain. Age alone is not sufficient, self-regulation skills take experience and practice.

In Australia, an estimated 30% of Australian children enter school with a history of persistent early childhood self-regulation problems (Williams, 2014), contributing to gaps in children's developmental competencies and school achievement levels (Nicholson, Lucas, Berthelsen, & Wake, 2012). It is therefore important that early childhood educators are skilled in observing and supporting children's growing self-regulatory competencies. In this article we provide a brief primer account of various self-regulatory behaviours and how they can be observed. We then suggest that music provides an ideal tool with which to support and build children's skills in this important area.

What does self-regulation look like?

There are a number of facets to self-regulation that are all linked in a complex system. *Emotional regulation skills* comprise the extent to which individuals react strongly to emotion-inducing events and are then able to return to a state of equilibrium. Children who find it challenging to be distracted or settle once they have become angry or upset are still

learning to emotionally self-regulate. *Attentional regulation* skills refer to the ways in which children can persist with a task even if distractions might be present. Children who stick with a task even if it is difficult, or return to the same activity after a brief interruption are showing good attentional regulation skills. *Executive functions* (EF) are considered a higher-order or 'top-down' part of the human self-regulatory system. Specifically, they are cognitive processes that serve to control an individual's behavior and cognition:- they are likened to the 'air traffic control system' of the brain (Center on the Developing Child at Harvard University, 2011).

The EFs consist of the specific processes of working memory, inhibition, and mental flexibility. *Inhibition* refers to the ability to effortfully inhibit behavior as required, for example, to wait for a cue before touching a tempting snack, to refrain from calling out in the classroom, or to refrain from touching a body part in the game *Simon Says*, unless the specific "Simon Says" cue is provided. We have all met the child who finds this a challenge. *Working memory* refers to the active maintenance of information in short-term storage for the purpose of executing a specific task. This can be observed when children are provided with multi-step instructions and must hold these in their head as they go about performing the tasks in order. *Flexibility* refers to the switching of attention or cognitive set between distinct but often closely related aspects of a given object or task. This can be observed when children are asked to sort pictures first by their color, ignoring their shape, then by their shape, ignoring their color. A number of tasks in early childhood require the combined and simultaneous efforts of inhibition, shifting, and flexibility (see *Backwards Open Shut Them* below).

Why use music to support self-regulation?

Studies that have investigated the developmental benefits of early music education, arts-enriched preschool criteria, and music therapy intervention suggest that active music participation increases children's self-regulatory functioning. Winsler and colleagues (2011) compared a group of 3-4-year-old children receiving weekly Kindermusik music and movement classes with a group who had not experienced any structured early childhood music classes. They found that those currently enrolled in Kindermusik showed better self-regulation than those not enrolled, as measured by a battery of tasks that required children to wait, slow down, and initiate or suppress a response. Further, the Kindermusik children were more likely to use a range of positive self-regulatory strategies, including private speech

during an attention task and singing / humming during a waiting task (Winsler, Ducenne, & Koury, 2011).

Arts enriched preschool environments that include music have been found to improve emotional regulation skills in low-income children (Brown & Sax, 2013) when compared to non-arts enriched programs. Music therapy with hospitalized infants has shown promising and robust results in relation to infants' capacities to self-regulate and engage in social interaction with adults compared to infants in a control group who did not receive music therapy (Malloch et al., 2012). Parent-child music therapy efficacy studies indicate that joint active music participation supports improved self-regulation skills (Pasiali, 2012), along with social and communication skills in preschool children (Williams, Berthelsen, Nicholson, Walker, & Abad, 2012).

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Ideas for music activities to support self-regulation

Lullabies

Kodaly (a well known Hungarian musicologist and founder of a complete school of teaching philosophy) believed that starting singing with babies was best done as early as possible. When asked 'How early?' he famously replied 'Nine months before the birth of the baby's mother'.

Newborns are completely other-regulated. That is, they are completely reliant on adults to soothe them. Children must then experience co-regulation with a caregiver before they can become self-regulated. When the parent or carer sings gently and rocks the baby it soothes and calms and assists the baby to learn strategies to calm and regulate him/herself.

Der Galumph

Freddy our green frog puppet 'tells' the children he is very nervous about them tossing him on a parachute. We use the song 'Der Galumph to gently and slowly toss Freddy to the first part of the music in the minor key (*der galumph went the little green frog one day*…). In the second part of the song, in the major key, (*we all know frogs go…)* we toss him more quickly but still gently. The skill is in the listening to the two very different moods of the parts of the song and the children restraining themselves (*inhibition*) from moving the parachute quickly until the second half.

Backwards Open Shut Them

Most people know *open, shut them, open, shut them, give a little clap.* But can children do the reverse action to the words they are singing? That is, can they shut their hands while they sing '*open'* and open them when they sign '*shut them'*? This is quite tricky and requires children to *inhibit* the natural and usually 'correct' response, then use their *working memory* to reverse the information and display the opposite action, while avoiding distraction and 'giving up' (*attentional regulation*) and trying not to get too frustrated with the demands of the task (*emotional regulation*). What a tricky game!

Music and Movement for Brain-Body Connection

Many of the activities known to improve the executive functions in children have in common a coordinated movement element – dance, martial arts, yoga. Music activities with a dance or action component are likely to improve brain-body neural connections in children which will support their self-regulation development. Examples are *Heads, Shoulders, Knees, Toes, Hokey Pokey*, and there are lots of many others. A simple activity where you sing "*Everybody do this, do this, do this*" and model a range of actions (like patting knees) that include crossing the midline (opposite hand to opposite knee) and different patterns of movement (e.g. heads, shoulders, knees) will also support these connections.

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So what are non musicians to do in the face of the overwhelming positives related to developing self regulation through music activities? Our suggestion would be to be purposeful and mindful about why and how you are using music in your teaching practice. Kodaly believed choosing good quality music for children was as important as choosing good quality food. 'For the very young, only the best is good enough.' Active music participation provides an invaluable context in which you can observe children's self-regulatory skills and support them to develop new ones. What are the components of self-regulation that you are supporting in the musical activities you are already doing? There is bound to be plenty. Happy musicking.

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